

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) A computer-implemented method of providing information to a user based upon contents of a first document displayed to the user, the method comprising:

identifying at least a first section of the first document;

extracting a first set of one or more information objects from the first section of the first document, the first set of information objects comprising at least a first information object comprising information of a first type, wherein the first information object is one of an audio object, a video object, or an image object;

determining degree of relevancy information for a second set of one or more information objects, the degree of relevancy information indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects, wherein the second set of information objects comprises at least one information object comprising information of a second type, wherein the second type is different from the first type, and wherein determining the degree of relevancy information comprises determining a degree of relevancy of the at least one information object to the first information object from the first set of information objects; and

selecting a third set of one or more information objects from information objects in the second set of information objects based upon the degree of relevancy information determined for information objects in the second set of information objects, wherein information objects in the third set of information objects store information to be output to the user when the first document is being displayed to the user.

2. (Previously Presented) The method of claim 1 wherein the first section of the first document corresponds to a section of the first document displayed to the user, wherein the section of the first document displayed to the user is less than the entire first document.

3. (Previously Presented) The method of claim 1 wherein the first section of the first document corresponds to the entire first document.

4. (Previously Presented) The method of claim 1 wherein extracting the first set of information objects from the first section of the first document comprises:

for each information object in the first set of information objects:

identifying a type of the information object based upon contents of the information object;

determining a first content recognition technique based upon the type of the information object; and

applying the first content recognition technique to the information object to determine information related to the contents of the information object.

5. (Previously Presented) The method of claim 1 wherein:

determining the degree of relevancy information for the second set of information objects comprises:

identifying a plurality of selection techniques for determining the degree of relevancy information; and

for each selection technique in the plurality of selection techniques, applying the selection technique to generate relevancy scores for the information objects in the second set of information objects, the relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the selection technique; and

selecting the third set of information objects comprises:

selecting one or more information objects from the second set of information objects to be included in the third set of information objects based upon the relevancy scores for information objects in the second set of information objects calculated using the plurality of selection techniques.

6. (Previously Presented) The method of claim 5 wherein selecting the one or more information objects from the second set of information objects to be included in the third set of information objects based upon the relevancy scores for information objects in the second set of information objects calculated using the plurality of selection techniques comprises:

for each information object in the second set of information objects:

calculating an aggregate relevancy score for the information object by aggregating the relevancy scores generated for the information object by applying the plurality of selection techniques; and

selecting the information object to be included in the third set of information objects if the aggregated relevancy score calculated for the information object is above a threshold value.

7. (Previously Presented) The method of claim 1 wherein:

determining the degree of relevancy information for the second set of information objects comprises:

identifying a first selection technique and a second selection technique for determining the degree of relevancy information; and

applying the first selection technique to generate a first set of relevancy scores for information objects in the second set of information objects, the first set of relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the first selection technique;

applying the second selection technique to generate a second set of relevancy scores for information objects in the second set of information objects, the second set of relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the second selection technique; and

selecting the third set of information objects comprises:

selecting one or more information objects from the second set of information objects to be included in the third set of information objects based upon the first set of relevancy scores and the second set of relevancy scores.

8. (Previously Presented) The method of claim 7 wherein applying the first selection technique to generate the first set of relevancy scores comprises:

determining a set of one or more concepts of interest to the user;

determining relevancy of each information object in the first set of information objects to each concept in the set of concepts;

determining relevancy of each information object in the second set of information objects to each concept in the set of concepts; and

calculating the first set of relevancy scores based upon the relevancy of each information object in the first set of information objects to each concept in the set of concepts and based upon the relevancy of each information object in the second set of information objects to each concept in the set of concepts, wherein each relevancy score in the first set of relevancy scores indicates a degree of relevancy of an information object in the second set of information objects to an information object in the first set of information objects for a particular concept included in the set of concepts.

9. (Previously Presented) The method of claim 7 wherein applying the second selection technique to generate the second set of relevancy scores comprises:

for each information object in the first set of information objects:

identifying a type of the information object based upon contents of the information object;

determining a comparison technique based upon the type of the information object; and

for each information object in the second set of information objects, applying the comparison technique to generate a relevancy score for the information object in the second set of information objects, the relevancy score indicating a degree of relevance of the information object in the second set of information objects to the information object in the first

set of information objects using the comparison technique determined based upon the type of the information object in the first set of information objects.

10. (Previously Presented) The method of claim 1 further comprising communicating the third set of information objects to a user system which is used to output information stored by information objects in the third set of information objects to the user.

11. (Previously Presented) The method of claim 1 wherein the first document is displayed to the user using an access program and the information stored by information objects in the third set of information objects is output to the user in a predetermined area of the access program.

12. (Previously Presented) The method of claim 11 wherein the access program is a web browser and the first document is a web page.

13. (Previously Presented) The method of claim 1 further comprising: determining when a second document is displayed to the user instead of the first document;

identifying at least a first section of the second document;
extracting a fourth set of one or more information objects from the first section of the second document;

determining new degree of relevancy information for the second set of information objects, the new degree of relevancy information indicating the relevancy of information objects in the second set of information objects to information objects in the fourth set of information objects; and

selecting a fifth set of one or more information objects from information objects in the second set of information objects based upon the new degree of relevancy information determined for the second set of information objects, wherein information objects in the fifth set of information objects store information to be output to the user when the second document is being displayed to the user.

14. (Previously Presented) A computer-implemented method of providing information to a user based upon contents of a document displayed to the user, the method comprising:

accessing a first set of one or more content provider information objects (CPIOs);
extracting a set of one or more user document information objects (UDIos) from the document, the set of UDIos comprising a first UDIo comprising information of a first type;
identifying a plurality of selection techniques for determining degree of relevancy information for the first set of CPIOs, the first set of CPIOs comprising at least one information object comprising information of a second type that is different from the first type, the plurality of selection techniques comprising a first selection technique and a second technique, wherein the first technique compares contents of the UDIos and the CPIOs, wherein the second technique determines relevancy of the UDIos and the CPIOs to one or more concepts of interest to a user;

for each selection technique in the plurality of selection techniques, applying the selection technique to generate degree of relevancy information for the CPIOs in the set of CPIOs, the degree of relevancy information indicating the relevancy of the CPIOs to the UDIos in the set of UDIos calculated using the selection technique; and

selecting a second set of one or more CPIOs from the first set of CPIOs based upon the degree of relevancy information for the CPIOs calculated using the plurality of selection techniques, wherein information objects in the second set of CPIOs store information to be output to the user when the document is being displayed to the user.

15. (Previously Presented) A computer-program product stored on a computer readable storage medium for providing information to a user based upon contents of a first document displayed to the user, the computer-program product comprising:

code for identifying at least a first section of the first document;
code for extracting a first set of one or more information objects from the first section of the first document, the first set of information objects comprising at least a first

information object comprising information of a first type, wherein the first information object is one of an audio object, a video object, or an image object;

code for determining degree of relevancy information for a second set of one or more information objects, the degree of relevancy information indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects, wherein the second set of information objects comprises at least one information object comprising information of a second type, wherein the second type is different from the first type, and wherein determining the degree of relevancy information comprises determining a degree of relevancy of the at least one information object to the first information object from the first set of information objects;

code for selecting a third set of one or more information objects from information objects in the second set of information objects based upon the degree of relevancy information determined for information objects in the second set of information objects, wherein information objects in the third set of information objects store information to be output to the user when the first document is being displayed to the user.

16. (Previously Presented) The computer-program product of claim 15 wherein the first section of the first document corresponds to a section of the first document displayed to the user, wherein the section of the first document displayed to the user is less than the entire first document.

17. (Previously Presented) The computer-program product of claim 15 wherein the first section of the first document corresponds to the entire first document.

18. (Previously Presented) The computer-program product of claim 15 wherein the code for extracting the first set of information objects from the first section of the first document comprises:

for each information object in the first set of information objects:

code for identifying a type of the information object based upon contents of the information object;

code for determining a first content recognition technique based upon the type of the information object; and

code for applying the first content recognition technique to the information object to determine information related to the contents of the information object.

19. (Previously Presented) The computer-program product of claim 15 wherein:

the code for determining the degree of relevancy information for the second set of information objects comprises:

code for identifying a plurality of selection techniques for determining the degree of relevancy information; and

for each selection technique in the plurality of selection techniques, code for applying the selection technique to generate relevancy scores for the information objects in the second set of information objects, the relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the selection technique; and

the code for selecting the third set of information objects comprises:

code for selecting one or more information objects from the second set of information objects to be included in the third set of information objects based upon the relevancy scores for information objects in the second set of information objects calculated using the plurality of selection techniques.

20. (Previously Presented) The computer-program product of claim 19 wherein the code for selecting the one or more information objects from the second set of information objects to be included in the third set of information objects based upon the relevancy scores for information objects in the second set of information objects calculated using the plurality of selection techniques comprises:

for each information object in the second set of information objects:

code for calculating an aggregate relevancy score for the information object by aggregating the relevancy scores generated for the information object by applying the plurality of selection techniques; and

code for selecting the information object to be included in the third set of information objects if the aggregated relevancy score calculated for the information object is above a threshold value.

21. (Previously Presented) The computer-program product of claim 15 wherein:

the code for determining the degree of relevancy information for the second set of information objects comprises:

code for identifying a first selection technique and a second selection technique for determining the degree of relevancy information; and

code for applying the first selection technique to generate a first set of relevancy scores for information objects in the second set of information objects, the first set of relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the first selection technique;

code for applying the second selection technique to generate a second set of relevancy scores for information objects in the second set of information objects, the second set of relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the second selection technique; and

the code for selecting the third set of information objects comprises:

code for selecting one or more information objects from the second set of information objects to be included in the third set of information objects based upon the first set of relevancy scores and the second set of relevancy scores.

22. (Previously Presented) The computer-program product of claim 21 wherein the code for applying the first selection technique to generate the first set of relevancy scores comprises:

code for determining a set of one or more concepts of interest to the user;

code for determining relevancy of each information object in the first set of information objects to each concept in the set of concepts;

code for determining relevancy of each information object in the second set of information objects to each concept in the set of concepts; and

code for calculating the first set of relevancy scores based upon the relevancy of each information object in the first set of information objects to each concept in the set of concepts and based upon the relevancy of each information object in the second set of information objects to each concept in the set of concepts, wherein each relevancy score in the first set of relevancy scores indicates a degree of relevancy of an information object in the second set of information objects to an information object in the first set of information objects for a particular concept included in the set of concepts.

23. (Previously Presented) The computer-program product of claim 21 wherein the code for applying the second selection technique to generate the second set of relevancy scores comprises:

for each information object in the first set of information objects:

code for identifying a type of the information object based upon contents of the information object;

code for determining a comparison technique based upon the type of the information object; and

for each information object in the second set of information objects, code for applying the comparison technique to generate a relevancy score for the information object in the second set of information objects, the relevancy score indicating a degree of relevance of the information object in the second set of information objects to the information object in the first

set of information objects using the comparison technique determined based upon the type of the information object in the first set of information objects.

24. (Previously Presented) The computer-program product of claim 15 further comprising code for communicating the third set of information objects to a user system which is used to output information stored by information objects in the third set of information objects to the user.

25. (Previously Presented) The computer-program product of claim 15 further comprising code for outputting information stored by information objects in the third set of information objects to the user in a predetermined area of an access program which is used to display the first document to the user.

26. (Previously Presented) The computer-program product of claim 25 wherein the access program is a web browser and the first document is a web page.

27. (Previously Presented) The computer-program product of claim 15 further comprising:

code for determining when a second document is displayed to the user instead of the first document;

code for identifying at least a first section of the second document;

code for extracting a fourth set of one or more information objects from the first section of the second document;

code for determining new degree of relevancy information for the second set of information objects, the new degree of relevancy information indicating the relevancy of information objects in the second set of information objects to information objects in the fourth set of information objects; and

code for selecting a fifth set of one or more information objects from information objects in the second set of information objects based upon the new degree of relevancy information determined for the second set of information objects, wherein information objects in

the fifth set of information objects store information to be output to the user when the second document is being displayed to the user.

28. (Previously Presented) A computer-program product stored on a computer readable storage medium for providing information to a user based upon contents of a document displayed to the user, the computer-program product comprising:

code for accessing a first set of one or more content provider information objects (CPIOs);

code for extracting a set of one or more user document information objects (UDIos) from the document, the set of UDIos comprising a first UDIo comprising information of a first type;

code for identifying a plurality of selection techniques for determining degree of relevancy information for the first set of CPIOs, the first set of CPIOs comprising at least one information object comprising information of a second type that is different from the first type, the plurality of selection techniques comprising a first selection technique and a second technique, wherein the first technique compares contents of the UDIos and the CPIOs, wherein the second technique determines relevancy of the UDIos and the CPIOs to one or more concepts of interest to a user;

for each selection technique in the plurality of selection techniques, code for applying the selection technique to generate degree of relevancy information for the CPIOs in the set of CPIOs, the degree of relevancy information indicating the relevancy of the CPIOs to the UDIos in the set of UDIos calculated using the selection technique; and

code for selecting a second set of one or more CPIOs from the first set of CPIOs based upon the degree of relevancy information for the CPIOs calculated using the plurality of selection techniques, wherein information objects in the second set of CPIOs store information to be output to the user when the document is being displayed to the user.

29. (Previously Presented) A system for providing information to a user based upon contents of a first document displayed to the user, the system comprising:

a processor;

a memory coupled to the processor, the memory configured to store a plurality of code modules for execution by the processor, the plurality of code modules comprising:

a code module for identifying at least a first section of the first document;

a code module for extracting a first set of one or more information objects from the first section of the first document, the first set of information objects comprising at least a first information object comprising information of a first type, wherein the first information object is one of an audio object, a video object, or an image object;

a code module for determining degree of relevancy information for a second set of one or more information objects, the degree of relevancy information indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects, wherein the second set of information objects comprises at least one information object comprising information of a second type, wherein the second type is different from the first type, and wherein determining the degree of relevancy information comprises determining a degree of relevancy of the at least one information object to the first information object from the first set of information objects; and

a code module for selecting a third set of one or more information objects from information objects in the second set of information objects based upon the degree of relevancy information determined for information objects in the second set of information objects, wherein information objects in the third set of information objects store information to be output to the user when the first document is being displayed to the user.

30. (Previously Presented) The system of claim 29 wherein the first section of the first document corresponds to a section of the first document displayed to the user, wherein the section of the first document displayed to the user is less than the entire first document.

31. (Previously Presented) The system of claim 29 wherein the first section of the first document corresponds to the entire first document.

32. (Previously Presented) The system of claim 29 wherein the code module for extracting the first set of information objects from the first section of the first document comprises:

for each information object in the first set of information objects:

a code module for identifying a type of the information object based upon contents of the information object;

a code module for determining a first content recognition technique based upon the type of the information object; and

a code module for applying the first content recognition technique to the information object to determine information related to the contents of the information object.

33. (Previously Presented) The system of claim 29 wherein:

the code module for determining the degree of relevancy information for the second set of information objects comprises:

a code module for identifying a plurality of selection techniques for determining the degree of relevancy information; and

for each selection technique in the plurality of selection techniques, a code module for applying the selection technique to generate relevancy scores for information objects in the second set of information objects, the relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the selection technique; and

the code module for selecting the third set of information objects comprises:

a code module for selecting one or more information objects from the second set of information objects to be included in the third set of information objects based upon the relevancy scores for information objects in the second set of information objects calculated using the plurality of selection techniques.

34. (Previously Presented) The system of claim 33 wherein the code module for selecting the one or more information objects from the second set of information objects to be included in the third set of information objects based upon the relevancy scores for information

objects in the second set of information objects calculated using the plurality of selection techniques comprises:

a code module for calculating an aggregate relevancy score for each information object in the second set of information objects by aggregating the relevancy scores generated for the information object by applying the plurality of selection techniques; and a code module for selecting an information object from the second set of information objects to be included in the third set of information objects if the aggregated relevancy score calculated for the information object is above a threshold value.

35. (Previously Presented) The system of claim 29 wherein:
the code module for determining the degree of relevancy information for the second set of information objects comprises:

a code module for identifying a first selection technique and a second selection technique for determining the degree of relevancy information; and

a code module for applying the first selection technique to generate a first set of relevancy scores for information objects in the second set of information objects, the first set of relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the first selection technique;

a code module for applying the second selection technique to generate a second set of relevancy scores for information objects in the second set of information objects, the second set of relevancy scores indicating the relevancy of information objects in the second set of information objects to information objects in the first set of information objects calculated using the second selection technique; and

the code module for selecting the third set of information objects comprises:

a code module for selecting one or more information objects from the second set of information objects to be included in the third set of information objects based upon the first set of relevancy scores and the second set of relevancy scores.

36. (Previously Presented) The system of claim 35 wherein the code module for applying the first selection technique to generate the first set of relevancy scores comprises:

- a code module for determining a set of one or more concepts of interest to the user;
- a code module for determining relevancy of each information object in the first set of information objects to each concept in the set of concepts;
- a code module for determining relevancy of each information object in the second set of information objects to each concept in the set of concepts; and
- a code module for calculating the first set of relevancy scores based upon the relevancy of each information object in the first set of information objects to each concept in the set of concepts and based upon the relevancy of each information object in the second set of information objects to each concept in the set of concepts, wherein each relevancy score in the first set of relevancy scores indicates a degree of relevancy of an information object in the second set of information objects to an information object in the first set of information objects for a particular concept included in the set of concepts.

37. (Previously Presented) The system of claim 35 wherein the code module for applying the second selection technique to generate the second set of relevancy scores comprises:

- for each information object in the first set of information objects:
 - a code module for identifying a type of the information object based upon contents of the information object;
 - a code module for determining a comparison technique based upon the type of the information object; and
 - for each information object in the second set of information objects, a code module for applying the comparison technique to generate a relevancy score for the information object in the second set of information objects, the relevancy score indicating a degree of relevance of the information object in the second set of information objects to the

information object in the first set of information objects using the comparison technique determined based upon the type of the information object in the first set of information objects.

38. (Previously Presented) The system of claim 29 wherein the plurality of code modules further comprises:

a code module for communicating the third set of information objects to a user system which is used to output information stored by information objects in the third set of information objects to the user.

39. (Previously Presented) The system of claim 29 wherein the first document is displayed to the user using an access program and information stored by information objects in the third set of information objects is output to the user in a predetermined area of the access program.

40. (Previously Presented) The system of claim 39 wherein the access program is a web browser and the first document is a web page.

41. (Previously Presented) The system of claim 29 wherein the plurality of code modules further comprises:

a code module for determining when a second document is displayed to the user instead of the first document;

a code module for identifying at least a first section of the second document;

a code module for extracting a fourth set of one or more information objects from the first section of the second document;

a code module for determining new degree of relevancy information for the second set of information objects, the new degree of relevancy information indicating the relevancy of information objects in the second set of information objects to information objects in the fourth set of information objects; and

a code module for selecting a fifth set of one or more information objects from information objects in the second set of information objects based upon the new degree of

relevancy information determined for the second set of information objects, wherein information objects in the fifth set of information objects store information to be output to the user when the second document is being displayed to the user.

42. (Previously Presented) A system for providing information to a user based upon contents of a document displayed to the user, the system comprising:

a user system displaying the first document to the user; and

a server system coupled to the user system;

wherein the server system is configured to:

access a first set of one or more content provider information objects (CPIOs);

extract a set of one or more user document information objects (UDIOs) from the document, the set of UDIOs comprising a first UDIO comprising information of a first type;

identify a plurality of selection techniques for determining degree of relevancy information for the first set of CPIOs, the first set of CPIOs comprising at least one information object comprising information of a second type that is different from the first type, the plurality of selection techniques comprising a first selection technique and a second technique, wherein the first technique compares contents of the UDIOs and the CPIOs, wherein the second technique determines relevancy of the UDIOs and the CPIOs to one or more concepts of interest to a user;

for each selection technique in the plurality of selection techniques, apply the selection technique to generate degree of relevancy information for the CPIOs in the set of CPIOs, the degree of relevancy information indicating the relevancy of the CPIOs to the UDIOs in the set of UDIOs calculated using the selection technique; and

select a second set of one or more CPIOs from the first set of CPIOs based upon the degree of relevancy information for the CPIOs calculated using the plurality of selection techniques; and

wherein the user system is configured to output information stored by the second set of CPIOs to the user.

43. (Previously Presented) The system of claim 42 wherein at least one CPIO included in the first set of CPIOs is provided by a content provider system coupled to the server system.

44. (Previously Presented) The system of claim 42 wherein the first set of CPIOs comprises a first CPIO and a second CPIO, wherein the first CPIO is provided by a first content provider system coupled to the server system and the second CPIO is provided by a second content provider system coupled to the server system.